

## ABSTRACT

Systems and methods are described for measuring the quality of telephone transmission lines. A device, such as a loop test apparatus, can be located at a customer's premises and used for remotely diagnosing telephone line impairments, especially concerning the local loop and customer premises wiring. Such a device is valuable for determining if a telephone line is suitable for new services, such as DSL. The loop test apparatus can incorporate an integrated local loopback feature that can be controlled from a loop testing server (LTS) at, e.g., a telephone Central Office. The loop test apparatus can terminate a telephone line at the customer premises based on a message sent by the LTS. The local loopback will then reflect signals transmitted by the LTS back to the LTS so that line characteristics of the local loop and customer premises wiring can be analyzed, without the need to dispatch telephone company service equipment and/or personnel to a customer premises.

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